SOUVENIR
B.M.A. MEETING
EDINBURGH
1927

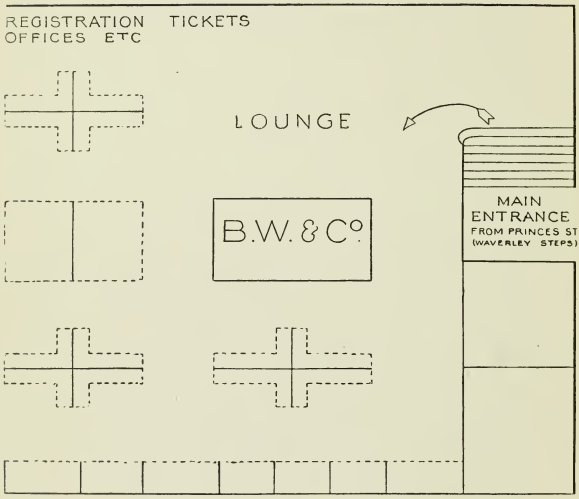
BURROUGHS WELLCOME & CO.



WELLCOME COLL.
/291

WELLCOME COLLECTION
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British Medical Association Exhibition, Edinburgh, 1927



Plan of the
British Medical Association Exhibition
Waverley Market, Edinburgh
Showing position of the
Burroughs Wellcome & Co. Exhibit


22501689688

For the Medical Profession only

SOUVENIR
B.M.A. MEETING
EDINBURGH
1927



BURROUGHS WELLCOME & CO.

THE WELLCOME FOUNDATION LTD.

(GOVERNING DIRECTOR—HENRY S. WELLCOME DEPUTY-GOVERNING DIRECTOR—GEO. E. PEARSON)
(BRITISH—FORMERLY U.S.A.)

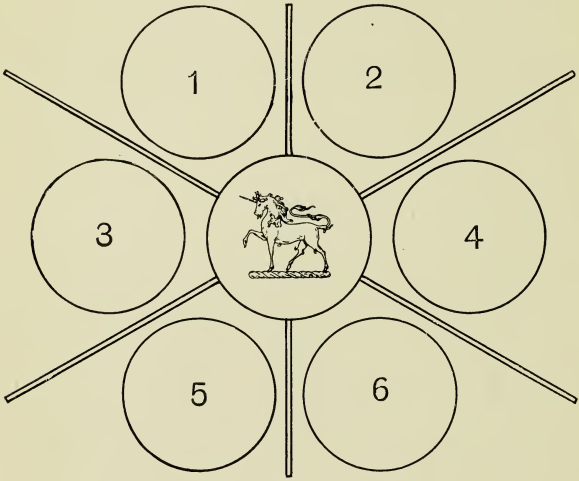
LONDON (ENG.)

Associated Houses:

NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN
BOMBAY SHANGHAI BUENOS AIRES

Printed in England

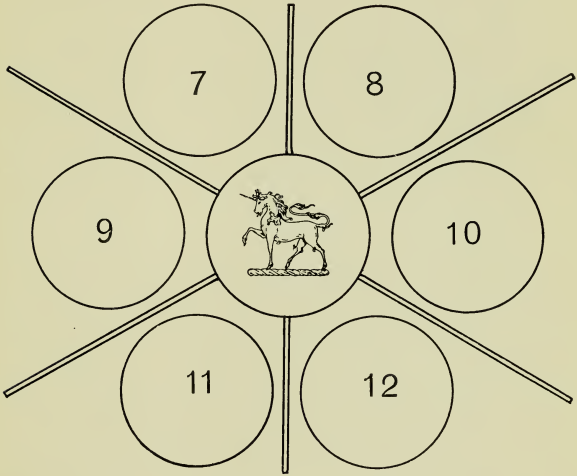
DISEASES CAUSED BY MICRO-ORGANISMS AND PRODUCTS EMPLOYED IN THEIR TREATMENT



KEY TO EXHIBIT OF ENLARGED REPRODUCTIONS OF THE CAUSATIVE ORGANISMS OF VARIOUS DISEASES

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DISEASES CAUSED BY MICRO-ORGANISMS AND PRODUCTS EMPLOYED IN THEIR TREATMENT



KEY TO EXHIBIT OF ENLARGED REPRODUCTIONS OF THE CAUSATIVE ORGANISMS OF VARIOUS DISEASES

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Introduction

The object of the Burroughs Wellcome & Co. exhibit was to present graphically to the visitor an index of the most modern scientific materials available for the treatment of diseases in which he specialises or is particularly interested. This was carried out mainly by means of two sections :—

Section I

The causative micro-organisms of a number of important diseases, such as Tetanus, Pneumonia, Syphilis, Tuberculosis, Diphtheria, Scarlet Fever and Malaria, were shown on a greatly enlarged scale by means of transparencies, coloured to indicate the microscopic stains used in preparing the original slides from which the enlargements were made. Associated with these organisms were the medicaments employed in modern medical practice in the treatment of the diseases which the organisms cause.

Section II

In another section of the exhibit was a full-size anatomical figure (*see page* 24), illuminated by transmitted light. It showed the principal organs of the body in a diagrammatic manner and in distinctive colours. These colours were used upon panels associated with the figure. The panels were illustrated with appropriate pathological, anatomical or microscopical subjects, and upon them, and associated with them, were exhibited characteristic medicinal products used in the treatment of lesions of the organ to which each panel related.

NOTE

All products exhibited, including Sera, Vaccines and Tuberculins, are BRITISH

Products of Particular and Topical Interest

The following products included in SECTIONS I and II or exhibited separately proved of particular and topical interest:—

'Ernutin,' presenting *Ergotoxine*, '*Ergamine*' and '*Tyramine*'—the active therapeutic principles of ergot (*page* 33).

Ergotoxine Ethanesulphonate, a new salt of the alkaloid (*page* 34).

Ephedrine, an alkaloid for use in Asthma and Hay Fever (*page* 32).

Insulin, for use in Diabetes mellitus (*page* 29).

Digitalis Leaf, possessing high activity and uniformity (*page* 27).

Dick Test Products, for the diagnosis of Scarlet Fever (*page* 22).

Schultz-Charlton Test Solution, for the diagnosis of Scarlet Fever (*page* 22).

Scarlet Fever Antitoxin, Concentrated (*page* 23).

Schick Test Products, for the diagnosis of Diphtheria (*page* 19).

Diphtheria Antitoxin, Concentrated (2000 units per c.c.) (*page* 20).

'Neostam' Stibamine glucoside, for the treatment of Kala Azar, etc. (*page* 17).

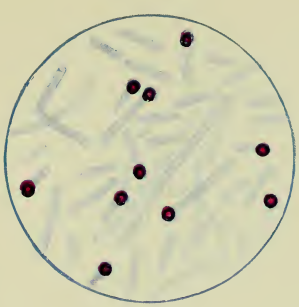
'Avenyl,' for use in Leprosy complicated with Syphilis (*page* 9).

Thyroxine (Natural and Synthetic), the active principle of the Thyroid Gland (*page* 40).

Irradiated Ergosterol, presenting Vitamin D, for clinical trial in the treatment of Rickets.

'Alepol,' a selected fraction of the Sodium Salts of the Total Fatty Acids of Hydnocarpus Oil, for use in the treatment of Leprosy (*page* 9).

TETANUS



BACILLUS TETANI
showing spores
Stained with 'Soloid' Fuchsine (Basic)
and 'Soloid' Methylene Blue

THE VALUE of Tetanus Antitoxic Serum, especially as a prophylactic, was most conclusively demonstrated during the war. Statistics proved that the mortality percentage was reduced by prophylactic inoculation to less than half that of previous campaigns. Not only did its use lower the mortality percentage, but it reduced the incidence of tetanus among the wounded.

War experience

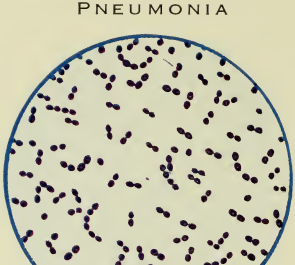
Great quantities of 'WELLCOME' TETANUS ANTITOXIC SERUM were supplied and used during the war. The British War Office Committee for the study of tetanus recommended that all wounded men should receive a primary injection at the time of the wound, a second injection in seven days, and a third and fourth at as nearly as possible the same interval of time.

A great advance has been made by the introduction of the 'WELLCOME' CONCENTRATED TETANUS ANTITOXIN, 1000 units per c.c. permitting the large doses advised by the majority of authorities to be given by injecting 10 c.c. to 20 c.c.

Preparation

'WELLCOME' BRAND CONCENTRATED TETANUS ANTITOXIN,
Trade Mark
1000 Units in 1 c.c. [Reg. No. 1137 B. W. & Co.]
Phials containing 10 *c.c.*

PNEUMONIA



DIPLOCOCCUS PNEUMONIÆ
Stained with 'Solcid' Gentian Violet and
'Soloid' Gram Iodine Solution

STRYCHNINE, STROPHANTHUS and DIGITALIS are outstanding medicaments used in the treatment of pneumonia. The following 'TABLOID' products are of special interest by reason of their proved activity, reliability and accuracy of dosage.

Preparations

'TABLOID' (*Trade Mark*) BRAND STRYCHNINE SULPHATE, gr. $\frac{1}{60}$ [0·00108 gm.]; gr. $\frac{1}{300}$ [0·0022 gm.]; gr. $\frac{1}{200}$ [0·0032 gm.]; gr. $\frac{1}{150}$ [0·0043 gm.]; and 0·001 gramme [SEE LIST B. W. & Co.]
Bottles of 100

'TABLOID' (*Trade Mark*) BRAND STROPHANTHUS TINCTURE, B.P., min. 2 [0·118 c.c.] [SEE LIST B. W. & Co.]
Bottles of 100

'TABLOID' (*Trade Mark*) BRAND STROPHANTHUS TINCTURE (1 in 10), 0·1 gramme [SEE LIST B. W. & Co.]
Bottles of 25 *and* 100

'TABLOID' (*Trade Mark*) BRAND DIGITALIS LEAF, gr. $\frac{1}{2}$ (0·032 gm.); and gr. 1 [0·065 gm.] [SEE LIST B. W. & Co.]
Bottles of 25 *and* 100

PNEUMOCOCCUS VACCINE, containing strains of the main types of the *Diplococcus pneumoniæ* (Weichselbaum), is used in pneumococcic infections of all kinds, pneumonia, empyema, pericarditis, endocarditis, septicæmia, meningitis and pneumococcic infections of the joints.

'WELLCOME' (*Trade Mark*) BRAND PNEUMOCOCCUS VACCINE [SEE LIST B. W. & Co.]
Phials of 1 *c.c. containing* 10 *million organisms, and* 1 *c.c. containing* 50 *million organisms; also in rubber-stoppered bottles of* 10 *c.c. and* 25 *c.c.*

LEPROSY



BACILLUS LEPRÆ IN NASAL SECRETION
Stained with 'Soloid' Fuchsine (Basic) and 'Soloid' Methylene Blue

'MOOGROL,' a mixture of esters of acids of the chaulmoogric series, is the outcome of extensive investigations by Burroughs Wellcome & Co., dating from 1904.

'MOOGROL' has been used extensively in leper colonies throughout the world and many reports of good results obtained have been received.

Administration is made by the intramuscular or intravenous route.

Preparations

'MOOGROL' (*Trade Mark*) BRAND MIXTURE OF ESTERS OF ACIDS OF THE CHAULMOOGRIC SERIES [SEE LIST B. W. & Co.]
Bottles of 25 *c.c.*, 100 *c.c. and* 1 *litre*

'ALEPOL,' a selected fraction of the Sodium Salts of the Total Fatty Acids of Hydnocarpus Oil.

Preparation

'ALEPOL' (*Trade Mark*) [SEE LIST B. W. & Co.]
Bottles of 25 *gramme*

'HYPOLOID' (*Trade Mark*) BRAND 'ALEPOL,' (*Trade Mark*) 1% and 3% [SEE LIST B. W. & Co.]
Rubber-capped bottles of 10 *c.c.*

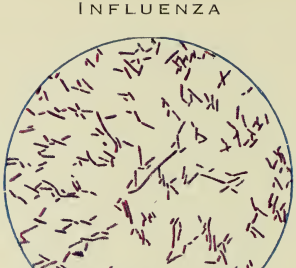
'AVENYL' (2-Myristoxy-mercuri-3-Hydroxybenzaldehyde) has given promising results in cases of leprosy aggravated by syphilis.* It enables mercury to be administered in hydnocarpus oil.

Preparation

'HYPOLOID' (*Trade Mark*) BRAND 'AVENYL' (*Trade Mark*) [SEE LIST B. W. & Co.]
Hermetically-sealed phials of 10 *c.c.*

* *Indian Journal of Medical Research*, October, 1926, *page* 29

Influenza



Bacillus Influenzæ

Stained with 'Soloid' Thionin Blue

Considerable progress has been made in the prevention and treatment of influenza by the use of vaccines.

Influenza Vaccine, Mixed, 'Wellcome' brand, contains *B. influenzæ*, pneumococci and streptococci. Though it is by no means certain that its injection protects against the onset of influenza, it is probable that it causes the development of some immunity against the organisms causing the pulmonary complications.

Preparation

'Wellcome' brand Influenza Vaccine, Mixed
(*Trade Mark*) [See List B. W. & Co.]

1 *c.c. phials and* 10 *c.c. and* 25 *c.c. rubber-capped bottles containing* 400 *million B. influenzæ*, 200 *million Pneumococci and* 80 *million Streptococci in each c.c.*

Quinine and Acetylsalicylic Acid are among other medicaments used in the treatment of influenza.

Preparations

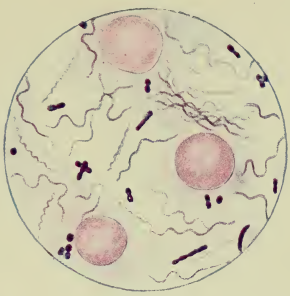
'Tabloid' brand Quinine Hydrochloride, gr. 1 [0·065 gm.]; gr. 2 [0·13 gm.]; gr. 3 [0·194 gm.]; gr. 4 [0·259 gm.]; gr. 5 [0·324 gm.]; 0·1 gramme; 0·25 gramme; 0·5 gramme
(*Trade Mark*) [See List B. W. & Co.]

Bottles of 25 *and* 100

'Tabloid' brand 'Empirin' Acetylsalicylic Acid,
(*Trade Mark*) (*Trade Mark*)
gr. 5 [0·324 gm.]; and 0·5 gramme [See List B. W. & Co.]

Bottles of 25 *and* 100

SYPHILIS



TREPONEMA PALLIDUM AND SPIROCHÆTA REFRINGENS

Smear preparation from Hard Chancre
Stained with 'Soloid' Eosin-Azur

IN THE therapeutics of syphilis four medicinal agents stand pre-eminent—Arsenic, Bismuth, Mercury and Iodine. The consensus of modern opinion is that for lasting results reliance should not be placed on the administration of a single agent, but that combined treatment with arsenic, bismuth and mercury, in accordance with the idiosyncrasies of the patient, is desirable. All three are actively antagonistic to the syphilitic virus. Iodine, on the other hand, is used to alleviate certain symptoms and to promote absorption of the products of the disease.

Anti-syphilitics

Three British arsenobenzene products replace salvarsan, neosalvarsan and similar products of foreign origin. 'KHARSIVAN' and 'NEOKHARSIVAN,' the first products of their kind to be produced in the British Empire, supplied the needs of our military and naval authorities during the War before the cessation of foreign supplies had caused grave inconvenience. 'KHARSIVAN' is used by intravenous injection. 'NEOKHARSIVAN' demands a simpler technique, and may be given intravenously or intramuscularly. 'KHARSULPHAN,' a more recent introduction, is still easier to employ, and may be given subcutaneously or intramuscularly.



All three are manufactured at the 'Wellcome' Chemical Works, Dartford, Kent, and are approved by the Ministry of Health, for use under the Public Health (Venereal Diseases) Regulations. They are biologically tested and approved by the Medical Research Council, and comply with the requirements of the Therapeutic Substances Act, 1925.

Official approval

The value of intramuscular bismuth medication in syphilis is now well-established, and its value is stated to be as 8 to 10 as compared with organic preparations of arsenic and as 8 to 3 as compared with mercury.

The value of bismuth

A finely-divided suspension of pure metallic bismuth is considered to be the ideal medicament, and 'HYPOLOID' BISMUTH METAL suspended in *Sterile* Isotonic Glucose Solution (*see below*) satisfies the most stringent tests for the effective introduction of pure metallic bismuth into the tissues. There is less risk with bismuth than with arsenic, and it is of special value in those cases intolerant of arsenic. By alternating bismuth and arsenic, the course of treatment is shortened.

Preparations

'KHARSIVAN' (*Trade Mark*) BRAND ARSENOBENZENE* (Dioxy-diamino-arsenobenzene Dihydrochloride), 0·1 gramme, 0·3 gramme, 0·4 gramme and 0·6 gramme [SEE LIST B. W. & Co.]

'NEOKHARSIVAN' (*Trade Mark*) BRAND NOVARSENOBENZENE,* 0·15 gramme, 0·3 gramme, 0·45 gramme, 0·6 gramme, 0·75 gramme and 0·9 gramme [SEE LIST B. W. & Co.]

'KHARSULPHAN' (*Trade Mark*) BRAND SULPHARSENOBENZENE,* 0·15 gramme, 0·3 gramme, 0·45 gramme and 0·6 gramme [SEE LIST B. W. & Co.]

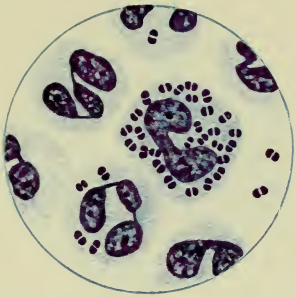
* *Hermetically-sealed phials*

'HYPOLOID' (*Trade Mark*) BRAND BISMUTH METAL, 0·2 gramme (gr. 3 approx.), in 1 c.c. [SEE LIST B. W. & Co.]

Suspended in *Sterile* Isotonic Glucose Solution.

No. 556—*Rubber-capped bottles of* 5 *c.c.*
No. 557— ,, ,, ,, ,, 10 *c.c.*
No. 559— ,, ,, ,, ,, 25 *c.c.*

GONORRHŒA



GONOCOCCUS IN PUS
Stained with 'Soloid' Thionin Blue

'NIZIN,' a zinc salt of sulphanilic acid, solves the problem of an efficient, but non-irritating and non-toxic antiseptic for use in genito-urinary and ophthalmic work. 'NIZIN' is efficient and yet non-irritating and non-toxic in the strengths recommended for use.

ANTI-GONOCOCCUS SERUM, 'WELLCOME' BRAND, is prepared from strains of gonococci obtained from urethritis and gonorrhœal conjunctivitis. Specially indicated in generalised gonorrhœal infections, such as gonorrhœal rheumatism and endocarditis.

GONOCOCCUS VACCINE, 'WELLCOME' BRAND, prepared from the *Micrococcus gonorrhœa*, is useful in the chronic and later stages of gonorrhœa, in gonorrhœal prostatitis, and in generalised gonorrhœal infections, such as gonorrhœal arthritis. It has been specially recommended in cases of gonococcal iritis.

Preparations

'NIZIN.' A zinc salt of sulphanilic acid [℞ B. W. & Co.]
(*Trade Mark*) *Bottles of* 1 *oz.*, ½ *oz. and* 16 *oz.*

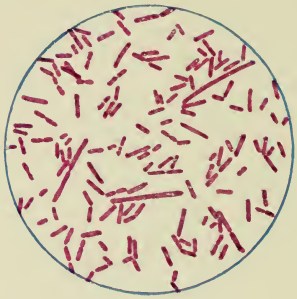
'SOLOID' BRAND 'NIZIN' (*Trade Mark*), gr. 2 [0·13 gm.]; (*Trade Mark*) gr. 20 [1·296 gm.]; 0·15 gramme; and 1 gramme [℞ B. W. & Co.]
Gr. 2 *and* 0·15 *gm., bottles of* 100 *; gr.* 20 *and* 1 *gm., bottles of* 25

'WELLCOME' BRAND ANTI-GONOCOCCUS SERUM
(*Trade Mark*) *Phials containing* 25 *c.c.* [℞ B. W. & Co.]

'WELLCOME' BRAND GONOCOCCUS VACCINE
(*Trade Mark*) [℞ B. W. & Co.]

Hermetically-sealed phials of 1 *c.c., and rubber-capped bottles of* 10 *c.c. and* 25 *c.c., containing* 5, 20, 200 *and* 1000 *million organisms in each c.c.*

Typhoid Fever



Bacillus Typhosus
from a young culture
Stained with 'Soloid' Fuchsine (Basic)

The efficiency of typhoid vaccine in prophylaxis was amply confirmed by the experiences of the military medical services of all the Great Powers of Europe during the late War. Under the influence of anti-typhoid inoculation, typhoid fever, instead of being, as in every previous war, one of the most common and most fatal of war diseases, became comparatively rare and unimportant.

War experience

Typhoid vaccine is now being tried as a curative agent in typhoid fever, and some good results are claimed by using, at intervals of from 4 to 7 days, a dose of 100–300 million organisms.

Clinical reports show that anti-typhoid serum has been used with some measure of success in the treatment of typhoid fever, and as a prophylactic.

Preparations

'Wellcome' brand Typhoid Vaccine
(*Trade Mark*) [See List B. W. & Co.]

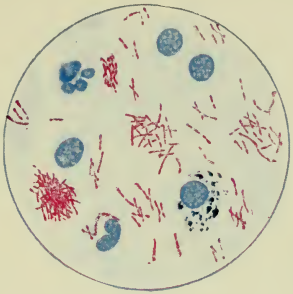
Phials of 1 *c.c. containing* 500 *million organisms, and* 1 *c.c. containing* 1000 *million organisms*

Several mixed Typhoid Vaccines are also supplied.

'Wellcome' brand Anti-Typhoid Serum
(*Trade Mark*) [See List B. W. & Co.]

Phials containing 25 *c.c.*

TUBERCULOSIS



BACILLUS TUBERCULOSIS
(Hominis) in Sputum
Stained with 'Soloid' Fuchsine (Basic) and
'Soloid' Methylene Blue

DIAGNOSIS and treatment of tuberculosis centre around Tuberculins, a wide range of which is prepared at the Wellcome Physiological Research Laboratories, Beckenham, Kent. Clinicians of experience still have wide differences of opinion as to the tuberculin they prefer for the treatment of patients; the absence, however, of any laboratory support for the choice of any particular tuberculin, and the lack of agreement amongst physicians after about two decades of use of these various preparations, suggest that most of these tuberculins will eventually fall into disuse, and that only the two varieties included below will remain in use in human medicine.

Diagnosis and treatment of tuberculosis

OLD TUBERCULIN, HUMAN (T), the tuberculin first introduced by Koch, for a time fell into disrepute as a therapeutic agent because the doses originally recommended were harmful. As an aid to diagnosis, however, it continued to be used, and for this purpose is still the preparation always employed. In modified doses, as indicated by further experience also, it is still used for the treatment of tuberculosis.



NEW TUBERCULIN (B.E.).—Having come to the conclusion that Old Tuberculin immunised only against the soluble toxins of the tubercle bacilli, Koch experimented with the view of obtaining a tuberculin which should produce immunity to the organisms themselves. New Tuberculin (B.E.) consists of an emulsion of one part of dry pulverised tubercle bacilli in 100 parts of distilled water, to which 100 parts of glycerin are added. Bacillary Emulsion is analogous to other vaccines consisting of sterilised emulsions of bacteria, and may be supposed to act in the same way.

TESTING AND STANDARDISATION OF TUBERCULINS.—All Tuberculins issued under the 'Wellcome' Brand are carefully tested for sterility and freedom from toxins; the exotoxic tuberculins are tested for potency.

Preparations

'WELLCOME' BRAND OLD TUBERCULIN, HUMAN (T)
(*Trade Mark*) [SEE LIST B. W. & Co.]

Rubber-stoppered bottles containing 1 *c.c. and* 5 *c.c. of Undiluted Old Tuberculin, Human, for dilution by the user.*

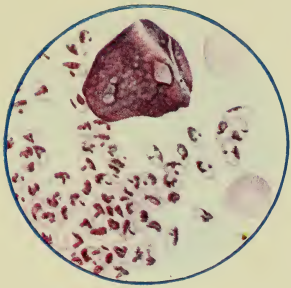
'WELLCOME' BRAND TUBERCLE VACCINE, HUMAN—
(*Trade Mark*) BACILLARY EMULSION (B.E.)
[SEE LIST B. W. & Co.]

Rubber-stoppered bottles containing 5 *mgm. tubercle bacillary substance in* 1 *c.c. or* 25 *mgm. bacillary substance in* 5 *c.c., for dilution by the user.*

NOTE.—In the British Isles only fresh sterile dilutions are supplied to order, in hermetically-sealed phials of 1 c.c.



KALA AZAR



LEISHMANIA TROPICA
Smear from an Oriental Sore
Stained with 'Soloid' Romanowski Stain

UNTIL RECENTLY the most successful results in the treatment of kala azar, as well as of bilharzia (schistosomiasis) and Oriental sore have been achieved by the intravenous injection of solutions of sodium antimony tartrate. The origination and introduction by Burroughs Wellcome & Co. of 'NEOSTAM,' the nitrogen-glucoside of sodium *p*-Aminophenylstibinate, however, marks a decided advance. Its toxicity, as physiologically tested by intravenous injection, is one-twentieth that of sodium antimony tartrate. It has an undoubted specific effect on the Leishman-Donovan body, and has given excellent results in kala azar, and suggests itself for clinical trial in other conditions where there is a Leishmaniasis.

'Neostam'

Preparation

'NEOSTAM' BRAND (*Trade Mark*) Stibamine Glucoside, 0·05 gramme; 0·1 gramme; 0·2 gramme; 0·5 gramme; and 1 gramme [SEE LIST B. W. & Co.]

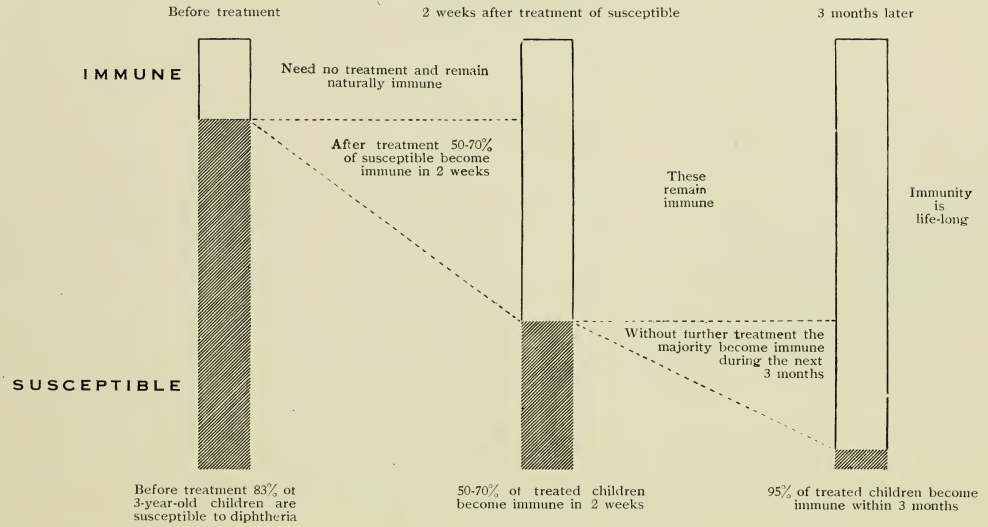
Hermetically-sealed phials

SODIUM ANTIMONY TARTRATE is available as a 'SOLOID' product for the preparation of intravenous injections.

Preparation

'SOLOID' BRAND (*Trade Mark*) ANTIMONY TARTRATE COMPOUND, No. 1 and No. 2 [SEE LIST B. W. & Co.]
Bottles of 25

RESULTS OF INJECTING CHILDREN WITH DIPHTHERIA PROPHYLACTIC



DIPHTHERIA



BACILLUS DIPHTHERIÆ
Stained with 'Soloid' Methylene Blue

AMONG the most notable of the advances recorded in recent years is the SCHICK TEST for determining whether individuals are susceptible or immune to diphtheria.

Schick Test

A test injection is made into one arm and a control injection into the other, and, according to the nature of the reaction, it is possible to determine, with a marked degree of accuracy, whether the subject is immune or susceptible to infection. Further, in the case of persons subject to diphtheria, it is possible, by injecting diphtheria prophylactic, to secure a high percentage of immunity, as is shown by the Chart on the *opposite page.*

Preparations

'WELLCOME' BRAND SCHICK TEST PRODUCTS
(Trade Mark) [SEE LIST B. W. & Co.]

[Diluted Toxin (Test) and Heated Toxin (Control)]

1 *c.c. and* 5 *c.c. Sets (Control and Diluted Toxin) and Capillary Sets (Control and Undiluted Toxin)*

'WELLCOME' BRAND DIPHTHERIA PROPHYLACTIC
(Trade Mark) [SEE LIST B. W. & Co.]

(Toxoid-Antitoxin Mixture for Active Immunisation)

1 *c.c. hermetically-sealed phials;* 10 *c.c. and* 25 *c.c. rubber-capped bottles*



DIPHTHERIA ANTITOXIN.—The first Anti-diphtheritic Serum produced in the British Empire was prepared at the Wellcome Physiological Research Laboratories, from which source also came the first supplies used in America. By eliminating from the serum, proteins which have no antitoxic value, a large reduction of volume in relation to unit value has been made possible without affecting the physical properties of the serum in such a way as to make it less easily absorbed. At the same time, the elimination of the useless proteins diminishes the tendency to produce the incidental symptoms, rashes, etc. In the production of 'WELLCOME' BRAND CONCENTRATED DIPHTHERIA ANTITOXIN a great elimination of useless proteins has been secured, and the reduction of volume, though considerable, has not been carried to such a length as to render the product viscid, and thereby delay absorption. The original concentration was 1000 units in 1 c.c. or less, but recent progress has permitted the production by the Wellcome Physiological Research Laboratories of a Diphtheria Antitoxin of twice this concentration.

Concentrated Diphtheria Antitoxin

Preparations

'WELLCOME' BRAND CONCENTRATED DIPHTHERIA ANTITOXIN* [SEE LIST B. W. & Co.]
(*Trade Mark*)

Phials containing 1000, 2000, 3000, 4000, 5000, 6000, 8000 *and* 10,000† *Ehrlich units*

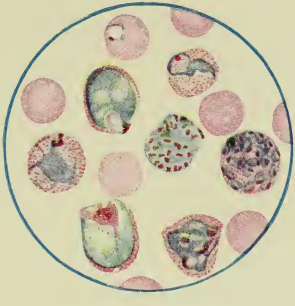
* 1000 units are contained in 1 c.c. or less; † 2000 units per c.c. or less

'WELLCOME' BRAND DIPHTHERIA ANTITOXIC SERUM [SEE LIST B. W. & Co.]
(*Trade Mark*)

Phials containing 500, 1000, 2000,* 3000* *and* 4000* *Ehrlich units*

1000 units are contained in 2·5 c.c. or less

MALARIA



MALARIAL BLOOD
Showing various phases of the benign tertian parasite
Stained with 'Soloid' Eosin–Azur

QUININE HYDROCHLORIDE possesses outstanding advantages as a prophylactic and remedial agent in malaria. It is very soluble, is easily absorbed, and is therefore particularly valuable when rapid action is required. It is stated to be less irritating to the mucous membrane than other quinine products. 'TABLOID' QUININE HYDROCHLORIDE contains a high percentage of quinine and is specially serviceable, therefore, in cases where large doses of the alkaloid are necessary and the stomach is in an inflamed and irritable condition.

High alkaloidal value

QUININE ETHYLCARBONATE has the advantage of absence of bitter taste, and is said neither to derange digestion nor to induce toxic symptoms.

QUININE ACETYLSALICYLATE combines the specific properties of quinine and salicylates.

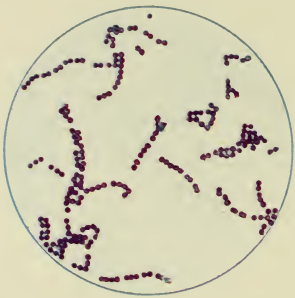
Preparations

'TABLOID' (*Trade Mark*) BRAND QUININE HYDROCHLORIDE, gr. 1 [0·065 gm.]; gr. 2 [0·13 gm.]; gr. 3 [0·194 gm.]; gr. 4 [0·259 gm.]; gr. 5 [0·324 gm.]; 0·1 gramme; 0·25 gramme; and 0·5 gramme [SEE LIST B. W. & Co.]
Bottles of 25 *and* 100

'TABLOID' (*Trade Mark*) BRAND QUININE ETHYLCARBONATE, gr. 5 [0·324 gm.] [SEE LIST B. W. & Co.]
Bottles of 25 *and* 100

'TABLOID' (*Trade Mark*) BRAND QUININE ACETYLSALICYLATE, gr. 3 [0·194 gm.]; and 0·25 gramme
Bottles of 25 *and* 100 [SEE LIST B. W. & Co.]

Scarlet Fever



Streptococcus of Scarlet Fever
Stained with Schloid Gram Iodine Solution

The Dick Test, for the diagnosis of scarlet fever, is similar in technique to the Schick Test used in diphtheria. The available evidence justifies the hope that the Dick Test and the Schultz-Charlton Blanching Test will be valuable aids in the diagnosis of scarlet fever, and that Scarlet Fever Antitoxin made by the injection of cultures of the hæmolytic Streptococcus of Scarlet Fever will be of great value in the treatment of severe cases and in the prevention of sequelæ. Research work has been actively carried out at the Wellcome Physiological Laboratories, and the necessary materials for carrying out these tests have now been placed at the disposal of the medical profession.

Dick Test

Preparations

'Wellcome' (*Trade Mark*) brand Diluted Scarlet Fever Toxin (Test) and Heated Scarlet Fever Toxin (Control), 1 c.c. sets *(Test and Control)*, 5 c.c. sets *(Test and Control)* [see List B. W. & Co.]

Hermetically-sealed phials

'Wellcome' (*Trade Mark*) brand Schultz-Charlton Test Solution [see List B. W. & Co.]

Rubber-stoppered bottles of 1 *c.c. and* 5 *c.c.*



Scarlet Fever Antitoxin, Concentrated

The usual dosage is from 40 c.c. upwards, given intramuscularly, as early as possible in the course of the disease. In a small number of severe cases a dose of 20 to 40 c.c. has been given intravenously, with subsequent rapid improvement.

The most promising field for antitoxin is in the early treatment of toxic cases. Probably increasing experience will show that the use of antitoxin early in the disease will diminish the number of complications.

Positive reactors can be *passively immunised* by antitoxin; 10 c.c., injected intramuscularly, will cause a positive reactor to give a negative response when tested a day later. The test remains negative and the patient is presumably protected against scarlet fever for many days.

Passive immunisation

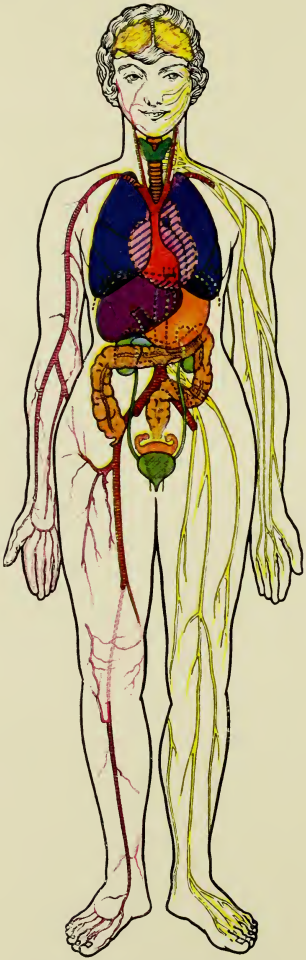
This method of passive immunisation has been found to be of use when scarlet fever has occurred in general wards in children's hospitals, schools and institutions, and amongst convalescent diphtheria patients. All the contacts are examined by the Dick Test and those giving a positive reaction immediately protected with antitoxin.

Preparation

'Wellcome' (*Trade Mark*) brand Concentrated Scarlet Fever Antitoxin [see list B. W. & Co.]

Hermetically-sealed phials of 10 *c.c.*





Reduced facsimile of life-size anatomical figure forming a colour index to the panels, exhibited at Edinburgh, devoted to different organs of the body

(*See page* 25)

INDEX TO SECTION II

A SERIES of panels devoted to different organs of the body and carrying exhibits of medicinal products. Each panel distinguished by a colour similar to that employed for its corresponding organ in the anatomical figure (*see facing page*).

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PANELS II and XVI (Light Blue)	THE PANCREAS Insulin, Benedict Test, 'Saxin'	29
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PANELS IV and VII (Terra-cotta)	THE UTERUS 'Ernutin', 'Infundin', 'Lodal', Ergotoxine Ethanesulphonate	33
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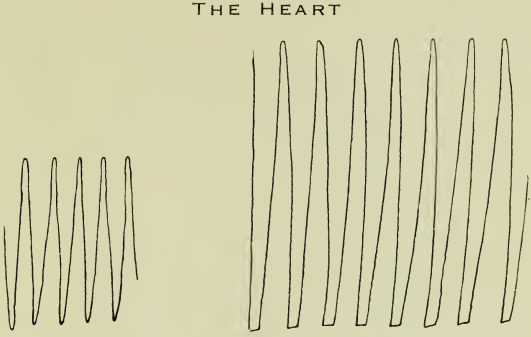
Reduced facsimile

DIGITALIS LEAF *(Digitalis purpurea)*
Second year's growth
'Wellcome' Materia Medica Farm



DIGITALIS *(Digitalis purpurea)* IN FLOWER
'Wellcome' Materia Medica Farm

From direct colour photographs developed with
'TABLOID' 'RYTOL'



Tracing of normal ventricular contractions (A) and contractions under influence of Digitalis (B)

THE CULTIVATION of DIGITALIS at the 'Wellcome' Materia Medica Farm, Dartford, Kent, has enabled Burroughs Wellcome & Co. to gather exceptional experience in the conditions necessary for obtaining reliable material, and when, as the result of recent investigations, the highest therapeutic activity and uniformity was associated with dried Digitalis Leaf, 'TABLOID' DIGITALIS LEAF was placed at the disposal of the medical profession. It possesses the following among other advantages :— Digitalis

(1) Full therapeutic activity of the whole leaf gathered from selected plants of the correct variety, cultivated, gathered and dried under the most favourable conditions.
(2) Highest degree of uniformity.
(3) Presence of all the glucosides of digitalis.
(4) Elimination of nothing but water.
(5) Physiological control by the Wellcome Physiological Research Laboratories.

Preparations

'TABLOID' BRAND DIGITALIS LEAF, gr. $\frac{1}{2}$ [0·032 gm.]; and gr. 1 [0·065 gm.] [$\frac{B.W.\&Co.}{LIST}$ B. W. & Co.]
(*Trade Mark*)

Bottles of 25 *and* 100

In regard to pharmaceutical preparations of Strophanthus, Burroughs Wellcome & Co. have held pre-eminence



since the time when Sir Thomas Fraser, of Edinburgh, first drew attention to the therapeutic value of this medicament and referred to the difficulties of obtaining supplies. These difficulties were overcome by Burroughs Wellcome & Co., who took vigorous steps to obtain the raw material from Africa, and for a considerable period were the sole suppliers of the drug.

Strophanthus

Preparations

STROPHANTHUS TINCTURE (B. W. & Co.), B.P. *(Physiologically Standardised)* [SEE LIST B. W. & Co.]

Bottles of ½ *fl. oz.*, 1 *fl. oz. and* 1 *lb.* (18 *fl. oz.*)

'WELLCOME' BRAND CONCENTRATED TINCTURE OF STROPHANTHUS (1 to 4) *(Trade Mark)* [SEE LIST B. W. & Co.]

Bottles of 4 *fl. oz.*, 8 *fl. oz. and* 16 *fl. oz.*

QUINIDINE SULPHATE, an isomer of quinine, is of special interest because of its effect on auricular fibrillation, which is reported by various workers to have been checked in some 50 per cent. of the cases treated.

Preparation

'TABLOID' BRAND QUINIDINE SULPHATE, 0·2 gramme [gr. 3 approx.] *(Trade Mark)* [SEE LIST B. W. & Co.]

Bottles of 100

SODIUM NITRITE COMPOUND is a vaso-dilator preparation capable of producing a lasting effect and of being used over periods of time without ill-effect, because, while retaining the advantages of its constituents, it eliminates, as far as possible, their disadvantages when administered alone.

Lasting vaso-dilator

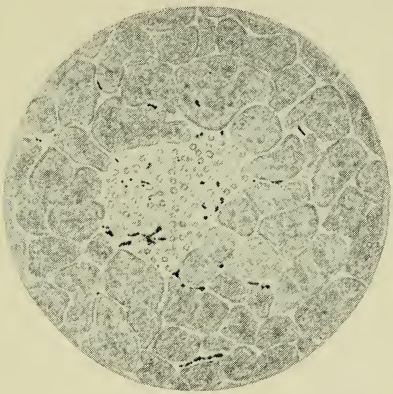
Preparation

'TABLOID' BRAND SODIUM NITRITE COMPOUND *(Trade Mark)* [SEE LIST B. W. & Co.]

℞ Sodii Nitritis, gr. 1/2 [0·032 gm.]
Erythrol Tetranitratis, gr. 1/8 [0·008 gm.]
Mannitol Nitratis, gr. 1/4 [0·016 gm.]
Ammonii Hippuratis, gr. 1 [0·065 gm.]

Bottles of 25 *and* 100

THE PANCREAS



SECTION OF OX PANCREAS *(Enlarged)*
Stained with 'Soloid' Thionin Blue and 'Soloid' Eosin

An ISLET of LANGERHANS, in which INSULIN is formed, occupies the centre. It is surrounded by pancreatic alveoli, in which is formed the digestive juice destructive of Insulin

INSULIN, a sterile aqueous solution of a material obtained from the pancreas, is made by Burroughs Wellcome & Co. under licence from the British Medical Research Council. It is biologically tested before issue.

Two preparations are available :—

'Wellcome' Brand Insulin, 100 units in 5 c.c.
(Trade Mark) ,, ,, 200 ,, ,, 5 c.c.

'Tabloid' *(Trade Mark)* Brand Hypodermic Insulin Hydrochloride *(Sterile)*, 10 units

'WELLCOME' BRAND INSULIN is of such stability that it retains its full therapeutic activity for a long period, even when stored without special precautions in India and other tropical countries. 'TABLOID' BRAND INSULIN HYDROCHLORIDE possesses the unique distinction of being the only British Insulin issued as a compressed product, and represents an important step forward in the progressive work on INSULIN associated with Burroughs Wellcome & Co.



'Wellcome' Brand Insulin



Each product presents an average dose (10 clinical units), and, when dissolved in 0·5 c.c. of *sterile* distilled water, is equivalent to an equal volume of standard Insulin.

Each dose may be prepared in the syringe barrel as required. There is no loss of solution. The products are sterile, stable, accurate in dosage, portable and convenient to administer.

Preparations

'WELLCOME' BRAND INSULIN [SEE LIST B. W. & Co.]
(*Trade Mark*)
Rubber-capped amber-glass phials containing 100 *units in* 5 *c.c. and* 200 *units in* 5 *c.c.*

'TABLOID' BRAND HYPODERMIC INSULIN HYDROCHLORIDE [SEE LIST B. W. & Co.]
(*Trade Mark*)

No. 150—Cartons containing 10 products in ONE tube.
No. 152—Cartons of 10 tubes, each containing ONE product.

'SOLOID' BENEDICT TEST for the determination of sugar in urine is more delicate and considerably easier to read than any other. There is no ambiguity in the reaction, and amounts as low as 0·1 per cent. of glucose are indicated by a clearly-defined change of colour. It is the test of choice for diabetic patients under Insulin treatment.



Medieval Urine Test

Preparations

'SOLOID' BRAND BENEDICT TEST [SEE LIST B. W. & Co.]
(*Trade Mark*) *Cartons of* 24

'SOLOID' BRAND URINE-SUGAR TEST CASE [SEE LIST B. W. & Co.]
(*Trade Mark*)

Containing materials and apparatus for conducting the Benedict Test.

'SAXIN,' a delicate sweetening agent, free from metallic taste, which undergoes no change in the system and is therefore used in the dietary of patients suffering from diabetes, gout, glycosuria and obesity.

Preparation

'TABLOID' BRAND 'SAXIN,' gr. 1/4 [0·016 gm.] [SEE LIST B. W. & Co.]
(*Trade Mark*) (*Trade Mark*)
Bottles of 100, 200 *and* 500

The Throat



In the panels devoted to the throat, and the diseases associated with this organ, are exhibited 'Wellcome' Brand Concentrated Diphtheria Antitoxin, 'Wellcome' Brand Diphtheria Antitoxic Serum, 'Wellcome' Brand Schick Test Products, 'Wellcome' Brand Scarlet Fever Antitoxin, and 'Wellcome' Brand Dick Test Products, etc., which are described in detail on *pages* 19 *and* 22.

Ephedrine, an alkaloid obtained from the Chinese drug, Ma Huang, a species of *Ephedra*, is closely related to adrenalin. Its salts are crystalline bodies readily soluble in water, and the hydrochloride is readily soluble in alcohol.

Hay Fever
Asthma

The systemic effects of Ephedrine are exerted on the sympathetic nerve-endings, causing vaso-constriction and elevation of blood-pressure. The response is not so rapid as to adrenalin, but is more lasting. Other effects dependent on sympathetic stimulation are dilatation of the bronchi and mydriasis. Locally, Ephedrine, instilled into the conjunctival sac, produces mydriasis; also, when applied to mucous surfaces, it causes blanching (not so extreme as adrenalin).

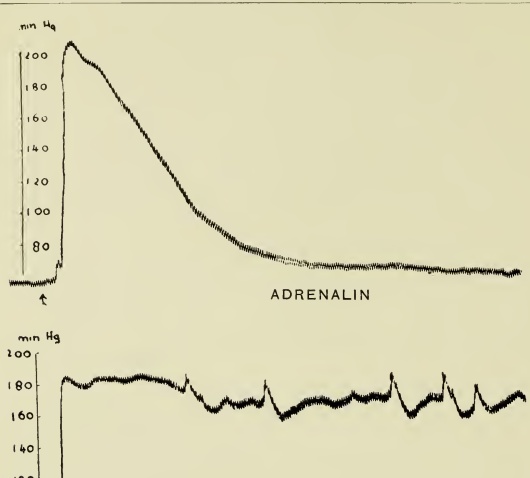
Clinically, Ephedrine is under trial in asthma, in hay fever, and for shrinking the turbinated bodies.

So far as hay fever is concerned, 13 patients out of 26 obtained complete, or practically complete, relief lasting three to seven hours after each dose of one grain of Ephedrine given orally. In five cases, fair results were obtained, lasting two to three hours; in eight cases, no benefit resulted.*

Hay fever

Salts of Ephedrine are equally effective whether administered orally, hypodermically, intramuscularly or intravenously. The dose for hypodermic injection ranges from gr. $\frac{1}{2}$ to gr. 2, for an adult; the normal oral dose is the same or slightly larger.

* *Journ. Amer. Med. Assoc.*, 1926, *Vol.* 87, No. 26, *p.* 2185



Kymographic Records of the effect of Adrenalin and Ephedrine on the carotid blood-pressure, demonstrating the more prolonged action of Ephedrine

EPHEDRINE HYDROCHLORIDE is prepared at the 'Wellcome' Chemical Works, Dartford (Eng.), elaborate precautions being taken to secure purity, particularly in regard to freedom from pseudo-ephedrine. Standardisation by chemical means ensures uniformity of composition and therapeutic activity.

Preparations

'TABLOID' BRAND EPHEDRINE HYDROCHLORIDE, gr. ½ (*Trade Mark*) [0·032 gramme] [SEE LIST B. W. & Co.]

DIRECTION.—One product, orally or hypodermically. Range of single dose, gr. ½ to gr. 2.

Tubes of 6 *and bottles of* 25 *and* 100

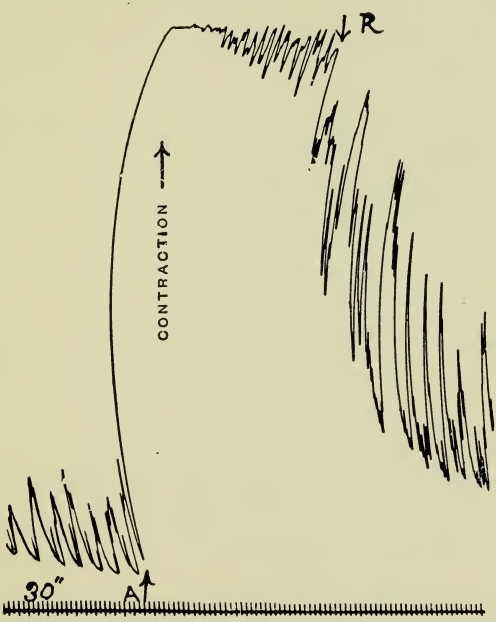
'HYPOLOID' BRAND EPHEDRINE HYDROCHLORIDE, (*Trade Mark*) 0·03 gramme [gr. ½ approx.], in 1 c.c. [SEE LIST B. W. & Co.]

DIRECTION.—One to four c.c., hypodermically.

Hermetically-sealed phials of 1 *c.c., in boxes of* 10

THE UTERUS

SEVERAL very notable preparations for uterine therapy have been introduced by Burroughs Wellcome & Co. as the result of original research work.



KYMOGRAPHIC TRACING SHOWING THE POWERFUL CONTRACTION OF THE UTERUS PRODUCED BY 'ERNUTIN'

A = ADDITION OF 1 C C. OF 'ERNUTIN'
Time marker indicates intervals of 30 seconds

'ERNUTIN' presents the active therapeutic principles of Ergot—ERGOTOXINE, 'ERGAMINE' and 'TYRAMINE'—in stable solution and in a state of chemical purity. 'Ergamine' and 'Tyramine' are prepared synthetically at the 'Wellcome' Chemical Works, Dartford (Eng.), by

methods originated in the firm's laboratories, while Ergotoxine is prepared directly from Ergot. 'ERNUTIN' contains definite proportions of these three active principles, which are produced in unvarying strength and of the highest degree of activity. The purity of these active principles is determined by chemical means. There is, therefore, no uncertainty of result when 'ERNUTIN' is used—a definite dose is followed by a definite response.

Ergot idealised

'ERNUTIN' may be described as containing the essentials of ergot without the accompanying impurities which produce deleterious effects, and may be employed wherever ergot is indicated. It is a clear, pleasant, palatable fluid, readily acceptable to the patient and never producing nausea.

Preparations

'ERNUTIN' (ORAL) [SEE LIST B. W. & Co.]
(*Trade Mark*) *Bottles of* 30 *c.c.*, 4 *fl. oz. and* 16 *fl. oz.*

'HYPOLOID' BRAND 'ERNUTIN' [SEE LIST B. W. & Co.]
(*Trade Mark*) (for hypodermic or intramuscular use)
Hermetically-sealed containers of 0·6 *c.c.* [*min.* 10 *approx.*] *of sterile solution*

ERGOTOXINE ETHANESULPHONATE.—a new salt of the specific alkaloid of ergot of rye, which presents ergotoxine in a purer state than has hitherto been attained. This new salt, originated by Burroughs Wellcome & Co., is white, crystalline, stable and more soluble than the phosphate.

Preparation

'WELLCOME' BRAND ERGOTOXINE ETHANESULPHONATE
(*Trade Mark*) *Tubes of* 0·1 *gramme* [SEE LIST B. W. & Co.]

'INFUNDIN' is the Burroughs Wellcome & Co. preparation of the posterior lobe of the pituitary gland. It claims pre-eminence because its dominating characteristic has always been a high and unfluctuating degree of activity. Before issue, each batch of 'INFUNDIN' has always been submitted to physiological tests of exceptional stringency; any batch failing to pass these tests is destroyed. Tests carried out in the United States Government Hygienic Laboratory on seven varieties of pituitary extract established the superiority

Reliable pituitary extract

of 'INFUNDIN.'* Reports of its use in practice show that 'INFUNDIN' has been found to maintain its potency for over *ten* years in spite of the fact that it is absolutely free from preservatives of any kind.

'INFUNDIN' may be employed generally for its action on the uterus in all post-partum conditions for which ergot is used. It is also of great value in cases of shock and collapse, because of the protracted rise in blood-pressure produced.

Preparations

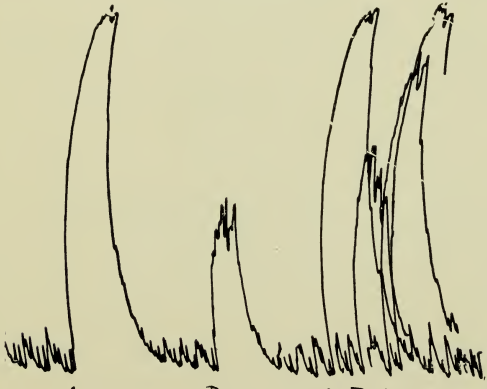
'HYPOLOID' (*Trade Mark*) BRAND 'INFUNDIN'—(*Trade Mark*) Pituitary (Posterior Lobe) Extract (*Original Strength*, 10 International Units per c.c.) [SEE LIST B. W. & Co.]

0·5 *c.c. and* 1 *c.c. hermetically-sealed containers, in boxes of* 6

'HYPOLOID' (*Trade Mark*) BRAND 'INFUNDIN'—(*Trade Mark*) Pituitary (Posterior Lobe) Extract (5 International Units per c.c.) [SEE LIST B. W. & Co.]

0·5 *c.c. and* 1 *c.c. hermetically-sealed containers, in boxes of* 6

NOTE.—'INFUNDIN' (*Original Strength*) is always supplied unless the lower potency is specified.



Standardisation of 'INFUNDIN' (A and C) compared with inferior pituitary extracts (B, D, E, F)

* Hygienic Laboratory U.S. Public Health Service Bulletin No. 115

THE NERVOUS SYSTEM



'Tabloid' Three Bromides Effervescent

WHEN the nervous system demands a sedative, it has been found that a combination of the bromides of potassium, sodium and ammonium are less depressing than the potassium salt alone. Further, when presented as a fresh effervescent draught, these medicaments are more acceptable because the obnoxious salty flavour of the average bromide solution is agreeably masked.

Nerve sedative

'TABLOID' BRAND THREE BROMIDES, EFFERVESCENT, a combination originated by Burroughs Wellcome & Co., presents accurate doses of the three salts with an effervescent basis, and is ideal as a mere sedative and an indirect hypnotic. One or more products in a glass of water produce a fresh, briskly-effervescing draught, possessing full therapeutic activity combined with acceptability to the palate and stomach.

Preparation

'TABLOID' BRAND THREE BROMIDES, EFFERVESCENT
(*Trade Mark*) [SEE LIST B. W. & Co.]

℞ Potassii Bromidi, 0·4 gramme [gr. 6-1/4 approx.]
Sodii Bromidi, 0·4 gramme [gr. 6-1/4 approx.]
Ammonii Bromidi, 0·2 gramme [gr. 3 approx.]
Salis Effervescentis, *q.s.*

Tubes of 25

Nerve tonics

As tonics for the nervous system, combinations of the Glycerophosphates, the Hypophosphites, the Phosphates, Quinine and Strychnine are available in the following preparations representing the corresponding syrups. 'TABLOID' products presenting the active constituents of these syrups, in doses of unvarying strength and activity, possess obvious advantages over the syrups themselves, both in ease of administration and certainty and reliability in effect.



THE BRAIN
Mesial Sagittal Section

Preparations

'TABLOID' (*Trade Mark*) BRAND GLYCEROPHOSPHATES COMPOUND (= Syrup of Glycerophosphates), dr. ½ [1·776 c.c.]; and 2 c.c. [2·6 gm.] (*Sugar-coated*) [SEE LIST B. W. & Co.]

Bottles of 25 *and* 100

'TABLOID' (*Trade Mark*) BRAND HYPOPHOSPHITES COMPOUND, gr. 1½ [0·097 gm.]; and gr. 3 [0·194 gm.] (= Compound Syrup of Hypophosphites, dr. ½ and dr. 1, respectively) [SEE LIST B. W. & Co.]

(*Plain or Sugar-coated*)

Bottles of 25 *and* 100

'TABLOID' (*Trade Mark*) BRAND EASTON SYRUP (*Sugar-coated*) [SEE LIST B. W. & Co.]

Issued in two Imperial strengths, representing, respectively, half a fluid drachm and one fluid drachm of Syrup of Iron Phosphate with Quinine and Strychnine of the British Pharmacopœia; also in two metric strengths representing, respectively, 2 c.c. and 4 c.c. of the official syrup.

Bottles of 25 *and* 100

Section of

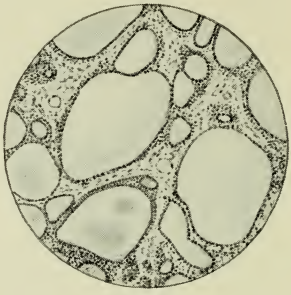
THYROID GLAND

Magnification 50

diameters

Compare with

PARATHYROID





Section of

PARATHYROID GLAND

Magnification 50

diameters

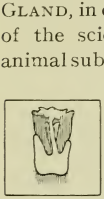
Compare with

THYROID

The Thyroid Gland



THE BRILLIANT RESULTS obtained from thyroid medication, largely by the use of 'TABLOID' THYROID GLAND, in cretinism and myxœdema focussed the attention of the scientific world on the *rational* employment of animal substances in therapeutics. On this sure foundation was raised the new science of endocrinology, which, in a few years, gave to the world a new scientific mode of treatment—Organotherapy.



The Thyroid Gland

Burroughs Wellcome & Co. were, and continue to be, pioneers on the pharmaceutical side of organotherapy. Only whole, fresh healthy gland substance is used in the preparation of 'Tabloid' Gland Substances. No extravagant claims are made for them, and none but reliable clinical results are considered as evidence.

'TABLOID' THYROID GLAND represents the whole substance of carefully-selected healthy glands and can be relied on in all circumstances to produce the complete therapeutic effect of the fresh gland. In the present state of knowledge no extract can be relied on to do this.

STANDARDISATION.—'TABLOID' THYROID GLAND is standardised by chemical means so as to ensure that the fresh healthy gland, of which each product represents a definite amount, contains 0·08 per cent. of iodine in organic combination.

This standard is equivalent to 0·32 *per cent. of iodine in the desiccated gland substance.*

RANGE OF DOSAGE.—In view of the importance now generally attached to beginning thyroid medication with small doses, the wide range of dosage provided by 'Tabloid'



products is a noteworthy feature. 'TABLOID' THYROID GLAND is supplied in accurate doses ranging from gr. 1/10 (suitable for young children) up to gr. 5.

THYROXINE (Natural and Synthetic), prepared at the 'Wellcome' Chemical Works, is also exhibited.

Preparations

'TABLOID' BRAND THYROID GLAND (*Standardised*), (*Trade Mark*) gr. $\frac{1}{10}$ [0·0065 gm.]; gr. $\frac{1}{4}$ [0·016 gm.]; gr. $\frac{1}{2}$ [0·032 gm.]; gr. 1 [0·065 gm.]; gr. $1\frac{1}{2}$ [0·097 gm.]; gr. 2 [0·13 gm.]; gr. $2\frac{1}{2}$ [0·162 gm.]; gr. 5 [0·324 gm.]; 0·05 gramme; 0·1 gramme; and 0·3 gramme [SEE LIST B. W. & Co.]

Bottles of 100

'TABLOID' BRAND THYROXINE, 0·0001 gramme; and (*Trade Mark*) 0·001 gramme [SEE LIST B. W. & Co.]

Bottles of 100

'TABLOID' BRAND THYROID COLLOID, gr. $\frac{1}{2}$ [0·032 gm.] (*Trade Mark*) [SEE LIST B. W. & Co.]

Bottles of 100

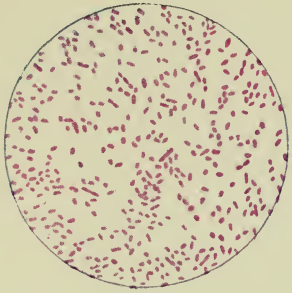
PARATHYROID GLAND is used for its favourable influence on the calcium metabolism of the body, and, in conjunction with calcium lactate, has given consistently good results in sprue. It is prescribed also in epilepsy, eclampsia, tetany, etc. In view of the uncertainty as to the material offered to the medical profession as parathyroid gland, gland substance used in 'TABLOID' PARATHYROID GLAND undergoes careful inspection checked periodically by microscopic sections. By these means the genuineness of all material used in 'TABLOID' PARATHYROID GLAND is ensured.

Genuine parathyroid

Preparation

'TABLOID' BRAND PARATHYROID GLAND, gr. $\frac{2}{5}$ [0·026 gm.] (*Trade Mark*) (equivalent to gr. $\frac{1}{10}$ of desiccated gland) [SEE LIST B. W. & Co.]

Bottles of 25



BACILLUS COLI COMMUNIS CULTURES
Stained with 'Soloid' Fuchsine (Basic)

FOR TREATMENT of dysenteric and typhoid affections, two Sera and a Vaccine are prepared at the Wellcome Physiological Research Laboratories and supplied by Burroughs Wellcome & Co.

ANTI-DYSENTERY SERUM, 'WELLCOME' BRAND, is usually prepared by injecting horses with killed or living cultures of Shiga's bacillus; sometimes Flexner and other typical strains are added.

Anti-dysentery Serum was much used during the war, and practically all experienced physicians are of opinion that the serum is of great value and that the mortality amongst cases of dysentery (Shiga), treated with sulphates and anti-dysentery serum at a reasonably early stage of the disease, should be very low.

Dysentery

The serum is tested intravenously in rabbits and mice against dysentery toxin. It is practicable to produce serum of which 0·003 c.c. to 0·001 c.c. or less will protect an animal against approximately 10 lethal doses of toxin.

Preparation

'WELLCOME' BRAND ANTI-DYSENTERY SERUM
(*Trade Mark*) [See list B. W. & Co.]
Hermetically-sealed phials of 25 *c.c.*

TYPHOID VACCINES and SERUM are also shown (*see page* 14).



LARGE INTESTINE FROM A FATAL CASE OF AMŒBIC DYSENTERY



EMETINE has established its value in amœbic dysentery, but there are, however, two classes of cases of this disease where the hypodermic injection of emetine has not been found so successful:—

(1) Patients who have undergone relapse after treatment and have become chronic "carriers";

(2) Those who are, apparently, "contact carriers" without a previous history of dysentery or of treatment.

Emetine Bismuthous Iodide

Investigations carried out in the Department of Biochemistry and Pharmacology, Medical Research Committee, London, seem to show that the oral administration of the double iodide of emetine and bismuth promises, in such cases, results more favourable than those obtainable by the hypodermic injection of emetine hydrochloride.

The original investigations were carried out with material supplied by Burroughs Wellcome & Co., who now issue the double salt as a 'TABLOID' product.

Preparation

'TABLOID' BRAND EMETINE BISMUTHOUS IODIDE, gr. 1 [0·065 gm.] [SEE LIST B. W. & Co.]
(*Trade Mark*)

Bottles of 36

BISMUTH SALICYLATE is employed for its protective action on the mucous membrane in diarrhœa and inflammatory conditions of the intestine.

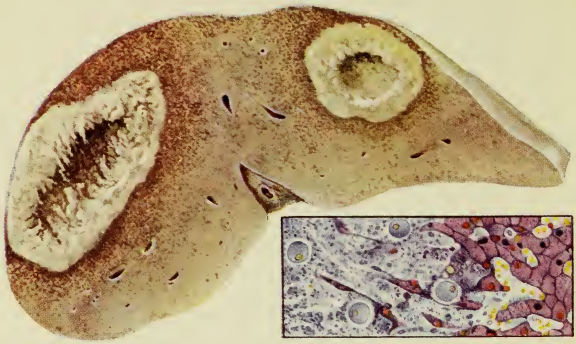
Preparation

'TABLOID' BRAND BISMUTH SALICYLATE, gr. 5 [0·324 gm.]; and 0·5 gramme [SEE LIST B. W. & Co.]
(*Trade Mark*)

Prepared with the *physiologically pure* salt.

Gr. 5, bottles of 25 *and* 100; *0·5 gramme, bottles of* 100

THE LIVER



AMŒBIC ABSCESS OF THE LIVER

Complication of Amœbic Dysentery

(1) Section of Liver passing through two amœbic abscesses

(2) Microscopical section of wall of abscess, showing absence of definite abscess wall, there being a gradual transition from more or less healthy liver tissue to the necrotic area, in which 4 Amœbæ, ENTAMŒBA HISTOLYTICA, are seen

Stained with 'Soloid' Hæmalum and 'Soloid' Eosin

EMETINE HYDROCHLORIDE, injected hypodermically, produces good results in amœbic dysentery, hepatitis and liver abscess. Hypodermically, it does not produce nausea or vomiting, so that it is of particular value where ipecacuanha cannot be tolerated. It has also been given intramuscularly and by the mouth.

Liver abscess

Certain products issued as emetine hydrochloride have been found so variable in composition and toxicity as to constitute a serious danger.*

'TABLOID' EMETINE products are prepared from 'Wellcome' Emetine salts which contain less than 0·5 per cent. of the accompanying alkaloids of ipecacuanha.

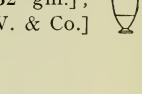
Preparations

'TABLOID' (*Trade Mark*) BRAND EMETINE HYDROCHLORIDE, gr. $\frac{1}{2}$ (*Keratin-coated*) [0·032 gm.] [$\frac{1}{167}$ B. W. & Co.]

Bottles of 25

* *Journal of the American Medical Association*, April 22, 1916

'TABLOID' (*Trade Mark*) BRAND HYPOD. EMETINE HYDROCHLORIDE, gr. $\frac{1}{3}$ [0·022 gm.]; gr. $\frac{1}{2}$ [0·032 gm.]; and gr. 1 [0·065 gm.] [SEE LIST B. W. & Co.]



Gr. $\frac{1}{3}$ *and gr* $\frac{1}{2}$, *tubes of* 12; *gr.* 1, *tubes of* 6

'HYPOLOID' (*Trade Mark*) BRAND EMETINE HYDROCHLORIDE, 0·02 gramme [gr. $\frac{1}{3}$ approx.], in 1 c.c.; 0·03 gramme [gr. $\frac{1}{2}$ approx.], in 1 c.c.; and 0·065 gramme [gr. 1 approx.], in 1 c.c. [SEE LIST B. W. & Co.]

0·02 *gm. and* 0·03 *gm., boxes of* 10; 0·065 *gm., boxes of* 6

The following preparations will be found useful in disordered conditions of the liver associated with constipation:—

Preparations

'TABLOID' (*Trade Mark*) BRAND LAXATIVE VEGETABLE (*Plain or sugar-coated*) [SEE LIST B. W. & Co.]

℞		
Ext. Colocynthidis Comp.,	gr. 1	[0·065 gm.]
Ext. Jalapæ,	gr. 1/2	[0·032 gm.]
Podophylli Resinæ,	gr. 1/4	[0·016 gm.]
Leptandrini,	gr. 1/2	[0·032 gm.]
Ext. Hyoscyami Viridis, P.B., 1898,	gr. 1/4	[0·016 gm.]
Ext. Taraxaci,	gr. 1/4	[0·016 gm.]
Ol. Menthæ Piperitæ,	*q.s.*	

Bottles of 25 *and* 100

'TABLOID' (*Trade Mark*) BRAND CASCARA COMPOUND [SEE LIST B. W. & Co.]

℞		
Ext. Cascaræ Sagradæ,	gr. 1	[0·065 gm.]
Ext. Euonymi,	gr. 1/2	[0·032 gm.]
Iridini,	gr. 1/2	[0·032 gm.]
Ext. Nucis Vomicæ,	gr. 1/16	[0·004 gm.]
Ext. Hyoscyami Viridis, P.B., 1898,	gr. 1/3	[0·022 gm.]

Bottles of 25 *and* 100

'TABLOID' (*Trade Mark*) BRAND SODIUM SULPHATE, EFFERVESCENT, B.P., gr. 60 [3·89 gm.] [SEE LIST B. W. & Co.]

Tubes of 25. *Each represents gr.* 30 [1·944 *gm.*] *of Sodium Sulphate*



GASTRIC CARCINOMA

THE STOMACH



THE CHIEF affections of the stomach are—gastritis, which may be either acute or chronic; and ulceration, either simple or malignant. The post-mortem appearance of one form of malignant ulcer is shown on *opposite page*.

In almost all gastric affections, bismuth medication is an essential part of the treatment, and the quality of the bismuth employed is of great importance in view of the sensitive condition of the diseased organ. 'WELLCOME' BRAND BISMUTH SALTS, from which all the Burroughs Wellcome & Co. pharmaceutical preparations of the metal are made, represent a high standard of achievement. They are made at the 'Wellcome' Chemical Works, and thus must pass the 'Wellcome' standards, which are more stringent than those required by the British Pharmacopœia.

Bismuth

Freedom from lead and other impurities is an outstanding characteristic. 'WELLCOME' BRAND BISMUTH CARBONATE possesses extreme lightness and uniformity, so that the use of a suspending agent is unnecessary in bismuth mixtures dispensed with the 'Wellcome' Salt.

'WELLCOME' BRAND BARIUM SULPHATE is a salt of exceptional purity, suitable for X-ray work.

'TABLOID' BETA-NAPHTHOL COMPOUND is an antiseptic and germicide used in enteric, dilated stomach and fermentative dyspepsia.

Preparations

'WELLCOME' BRAND BISMUTH CARBONATE, B.P.
(*Trade Mark*) [B. W. & Co.]
4 *oz.*, 8 *oz.*, 16 *oz. and* 7 *lb.*; 100 *gm.*, 250 *gm.*, 500 *gm. and* 1 *kilo carton*

'WELLCOME' BRAND BARIUM SULPHATE
(*Trade Mark*) [B. W. & Co.]
3 *oz.*, 16 *oz. and* 7 *lb.*; 100 *gm.*, 500 *gm. and* 3 *kilo cartons*

'TABLOID' BRAND BISMUTH CARBONATE, gr. 5 [0·324 gm.];
(*Trade Mark*) and 0·5 gramme [B. W. & Co.]
Bottles of 25 *and* 100

'TABLOID' BRAND BETA-NAPHTHOL COMPOUND
(*Trade Mark*) (*Gelatin-coated*) [B. W. & Co.]

℞ Beta-naphthol, gr. 1 [0·065 gm.]
Carbonis Ligni, gr. 4 [0·259 gm.]
Ol. Menthæ Piperitæ, min. 1/2 [0·03 c.c.]
Bottles of 25 *and* 100

Tuberculin as a Diagnostic Agent
The Cutaneous Reaction
(von Pirquet)



Fig. 1 Fig. 2

Fig. 1 represents a mild, and Fig. 2 a pronounced, reaction

In each case the middle one of the three scarified areas is the control, the other two representing the reaction to Tuberculin

(*See page* 15)

THE LUNGS



THE USE OF TUBERCULINS in the diagnosis and treatment of tuberculosis is dealt with on *page* 15.

COD LIVER OIL has an established reputation as a food in debilitated conditions due to affections of the lungs. For many years its use was empirical, but the recognition of the richness in vitamins of the best cod liver oil has placed this agent in an assured position, based upon definite scientific knowledge. 'KEPLER' COD LIVER OIL WITH MALT EXTRACT provides the ideal means of administering cod liver oil. Not only does the 'Kepler' Malt Extract cover the fishy taste, but it aids assimilation, increases the nutritive value and provides Vitamin B in active condition. The cod liver oil used is the finest procurable and has been selected for its vitamin content since 1923.



Codfish

Preparations

'KEPLER' COD LIVER OIL WITH MALT EXTRACT (*Trade Mark*) [See List B. W. & Co.]

Bottles of two sizes

Also combinations with CHEMICAL FOOD (PHOSPHATES COMPOUND), with HYPOPHOSPHITES, with IRON IODIDE and with PHOSPHORUS (*see Wellcome's Medical Diary*).

NUCLEIN combined with LECITHIN and the GLYCEROPHOSPHATES.

The nutrient, restorative and reconstituent properties of this combination make it of particular value in incipient tuberculosis and in convalescence.

Preparation

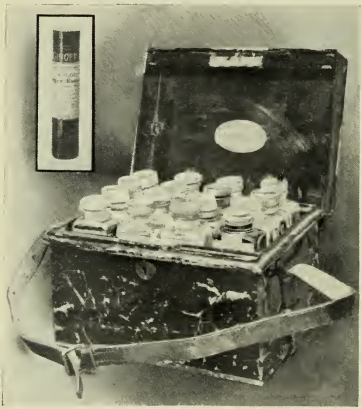
'TABLOID' BRAND NUCLEO-LECITHIN COMPOUND (*Trade Mark*) [See List B. W. & Co.]

℞ Nucleini, gr. ¼ [0·016 gm.]
Lecithini, gr. ½ [0·032 gm.]
Potassii Glycerophosphatis, gr. 1 [0·065 gm.]
Calcii Glycerophosphatis, gr. 1 [0·065 gm.]

(*Sugar-coated*)

Bottles of 25 *and* 100

North Pole and South Pole



Peary

'Tabloid' Medicine Case used by Rear-Admiral Peary

Inset is a reproduction of one of the eight tubes of 'Tabloid' products carried to the North Pole



Scott

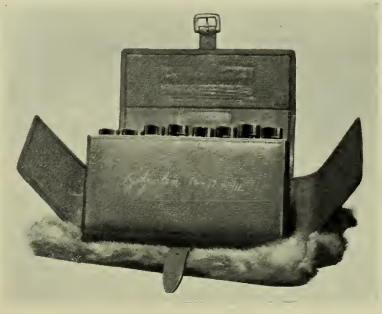
'Tabloid' Medical Equipment carried to the South Pole by Captain Scott

HISTORICAL

'TABLOID' MEDICINE CHESTS

NOT only were 'TABLOID' Medical Equipments the *First* to be carried to the North Pole and the South Pole, but they are the *Only* ones which have reached these regions. These Cases bear testimony to the valuable aid rendered to such high adventures by medical science.

It is not too much to say that the consistent success which has attended exploration in all its fields has been, in no small measure, due to the foresight shown in the choice of the medical equipments. That these should invariably be supplied by Burroughs Wellcome & Co. is not mere coincidence. Each succeeding order for these Cases is merely a tribute to the efficiency of the last.



AMUNDSEN

'TABLOID' MEDICAL EQUIPMENT
carried to the SOUTH POLE by Captain Amundsen

Illustrations of Medicine Chests and Cases

At all times Burroughs Wellcome & Co. have devoted great attention and not a little ingenuity to supplying the ever-increasing demands for a series of medicinal outfits at once reliable, compact and sufficiently complete to meet the emergencies of general practice, military exigency or residence remote from institutional aid. Ashore or afloat, one type or other of the series will be found an indispensable part of the physician's armamentarium.

'Tabloid' and 'Soloid' Equipments have won universal commendation, proving themselves under the most searching tests of hard usage and long service in extreme climatic conditions. Typical examples of these 'Tabloid' and 'Soloid' Brand Cases of hypodermic, ophthalmic and general medicaments are illustrated on this and the following pages, whilst a full description of their contents and prices will be found in the Price List Section of *Wellcome's Medical Diary*. Application for fuller particulars and illustrations in actual colours is cordially invited.

The assistance which Burroughs Wellcome & Co. are able to give in the choice of suitable equipments is always freely at the disposal of those who are called upon to select outfits for soldiers, travellers, missionaries and others proceeding to remote parts of the world.

No. 93 'Tabloid' Brand Aseptic Ophthalmic Pocket-Case



Exceptionally complete and compact. Fits easily into the vest pocket. If the contents be removed, the case may readily be sterilised.

Nickel-plated Metal.

No. 93 'Tabloid' Brand Aseptic Ophthalmic Pocket-Case
Measurements: 2⅜ × 2⅛ × ⅜ in. (approx.)

TRADE MARK 'TABLOID' BRAND
HYPODERMIC POCKET-CASES

Provide complete equipments for hypodermic work in the smallest possible space. The metal cases may readily be sterilised on removal of their contents.

No. 7 'Tabloid' Brand Aseptic Hypodermic Pocket-Case

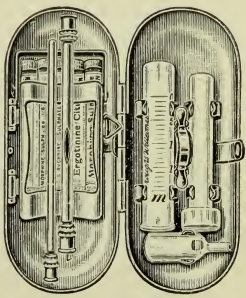


Fitted with detachable nickel-plated aseptic frame with rack carrying tubes of 'Tabloid' Hypodermic products and holders for syringe and needles.

Aluminium and Silver.

No. 7 'Tabloid' Brand Aseptic Hypodermic Pocket Case
Measurements: 3½ × 3⅛ × ⅞ in. (approx.)

No. 46 'Tabloid' Brand Aseptic Hypodermic Pocket-Case
("The Mussel Shell")



Component parts held in metal clips and rack, ensuring maximum security.

Nickel-plated Metal, complete with soft leather cover.

No. 46 'Tabloid' Brand Aseptic Hypodermic Pocket Case
Measurements: 3½ × 1⅜ × 1 in. (approx.)

TRADE MARK 'TABLOID' BRAND

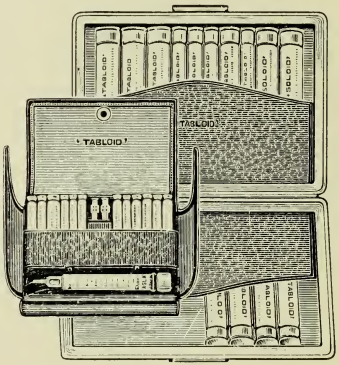
MEDICINE CHESTS AND CASES

'TABLOID' Brand Medicine Chests and Cases have earned a reputation for convenience, portability and efficiency which places them in a class by themselves.

No. 126 'Tabloid' Brand Medicine Pocket-Case

A convenient handsome Case for the breast-pocket. The hypodermic equipment may be withdrawn from the larger case, if desired, for separate use.

Cowhide, Morocco, Pigskin, Brown and Green Seal or Crocodile Leathers.



No. 126 'Tabloid' Brand Medicine Pocket-Case
Measurements: 5½ × 4 × 1½ in. (approx.)

No. 134 'Tabloid' Brand Medicine Pocket-Case

Fitted with eight phials of 'Tabloid' Brand products, etc.

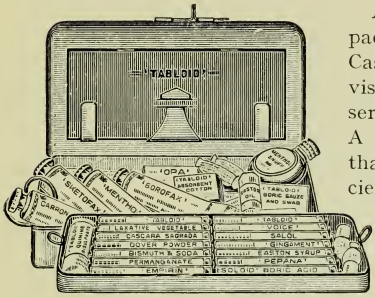


Solid Cowhide unlined, Cowhide, Morocco, Pigskin, Brown Seal or Crocodile Leathers.

No. 134 'Tabloid' Brand Medicine Pocket-Case
Measurements: 6½ × 4½ × 1⅜ in. (approx.)

No. 261 'Tabloid' Brand Medicine Case

("*The Orient*") (*Registered*)



An elegant, compact and well-fitted Case specially devised and arranged for service in the East. A reliable companion that will provide efficient aid on the spot.

Aluminised Metal.

No. 261 'Tabloid' Brand Medicine Case
Measurements: $7\frac{5}{8} \times 4\frac{1}{4} \times 2$ in. (approx.)

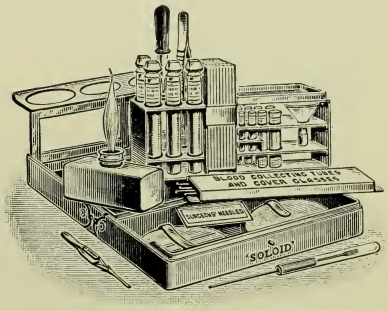
TRADE MARK 'SOLOID' BRAND ANALYSIS AND TEST CASES

Portable outfits containing apparatus and reagents for the analyses of urine, water, sewage, etc., and equipments providing, in small compass, the essentials for the bacteriological examination of blood, pus, sputum, etc.

No. 505 'Soloid' Brand Bacteriological Case

Owing to its small size and light weight, this Case can readily be carried into the sick chamber, to obtain a blood specimen or a throat swab.

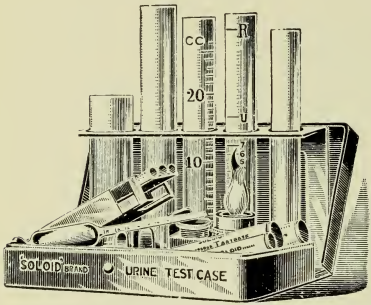
Nickel-plated Metal, with soft leather cover.



No. 505 'Soloid' Brand Bacteriological Case
Measurements: $5 \times 3\frac{1}{4} \times 1\frac{5}{8}$ in. (approx.)

No. 510 'Soloid' Brand Urine Test Case
(Registered)

Compact and easily rendered aseptic.



No. 510 'Soloid' Brand Urine Test Case
Measurements: 5¾ × 2¾ × 1¼ in. (approx.)

Contains the means of applying to urine qualitative and quantitative tests for albumin, sugar, etc.

Nickel-plated Metal, with soft leather cover.

TRADE MARK 'TABLOID' BRAND FIRST-AID

Compact, comprehensive outfits of dressings, first-aid accessories, etc.

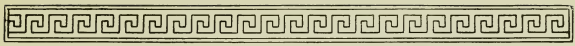
No. 702 'Tabloid' Brand First-Aid *(Registered)*



No. 702
'Tabloid' Brand First-Aid
Measurements: 7¼ × 5¼ × 3 in. (approx.)

Contains 'Tabloid' Bandages and Dressings, 'Vaporole' Iodine Tincture, 'Vaporole' Aromatic Ammonia, 'Borofax,' 'Hazeline' Cream, tourniquet, scissors, etc., and eight tubes of 'Tabloid' and 'Soloid' Brand products.

Red, Royal Blue or Imperial Green Enamelled Leather.



At every great

INTERNATIONAL EXHIBITION

at which

BURROUGHS WELLCOME & CO.

products have been exhibited they have received the greatest number of

COMPETITIVE
HIGHEST AWARDS

for

SCIENTIFIC EXCELLENCE

The total number of Competitive Highest Awards received now exceeds

270

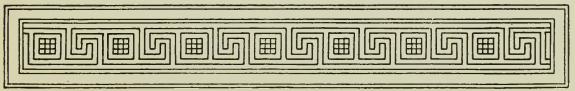
including

TWO GRAND PRIZES

at the

INTERNATIONAL CONGRESS OF MEDICINE

London, 1913



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